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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/727,398	12/04/2003	Masahide Tanaka	225525	7559

23460 7590 08/04/2004

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EXAMINER

REYES, HECTOR M

ART UNIT	PAPER NUMBER
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1625

DATE MAILED: 08/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/727,398

**Applicant(s)**

TANAKA ET AL.

**Examiner**

Hector M Reyes

**Art Unit**

1625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 19-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 19-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>3/8/04; 12/4/03</u> .   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### **Status of The Claims**

Claims 1-18 have been canceled. Claims 19-25 are currently under Examination.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claim 19 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 19 is indefinite and ambiguous because it is not clear what are the esters produced by the claimed process. The phrase "a racemic 3-hydroxy-3-(2-phenylethyl)hexanoic acid ester" generates the indefiniteness because the alcohol part of the ester is not defined, thus it is unclear what esters are embraced by the said phrase. What particular haloacetic esters are required in order to carry out the claimed process? Notice that the chemical nature and/or reactivity of the said ester moiety it is recognized to be an essential element or factor in the process as claimed since it can determine the product(s) obtained by the claimed process because:

- The alcohol part of the ester may include any substituent that is incongruent with the nature and reactivity of the desired outcome

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- It is recognized in the prior art that magnesium is more reactive than zinc metal and that magnesium can be replaced by zinc in a Reformatsky process whenever the corresponding tert-butyl esters are used.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 19 and 21-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sorger et al, US patent 6605716 B2 in view of Moriwake, J. Org. Chem., 31, 983-985, (1966).

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Sorger discloses a method for the preparation of a series of compounds via the Reformatsky reaction. Among the compounds prepared by Sorger is methyl 3-hydroxy-3-(2-phenylethyl caprolate, see col. 9, Example 5. The said preparation comprises:

- Preparing the corresponding zinc enolate of ethyl acetate with trimethylchlorosilane
- Reacting the said enolate with 1-phenylhexan-3-one.

Sorger also teaches that the said ketone is prepared by base-catalyzed aldol condensation of benzaldehyde and penta-2-one followed by hydrogenation.

Sorger does not teach or suggests the use of magnesium enolates in place of the corresponding zinc enolates in order to carry out the taught process.

Moriwake teaches that the Reformatsky reaction can be carried out conveniently by magnesium with improved yields, particularly when using the corresponding magnesium enolates of tert-butyl esters.

Consequently, it would have been obvious to a person of ordinary skills in the art at the time the claimed invention was made and within the meaning of 35 USC 103, to prepare the hexanoic ester derivatives by following the procedure taught by Sorger et al via the Reformatsky reaction but using magnesium enolates in place of zinc enolates as taught by Moriwake. A person with ordinary skills in the art would immediately recognize that the used magnesium enolates are said to shown an increase in yields in comparison with the zinc enolates.

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**CONCLUSION**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Gage et al, US patent 6077963 (2000) describes a process for the preparation of ethyl 3-(2-phenylethyl)hexanoate by condensing 1-phenyl-3-hexanone with the corresponding lithium enolate of ethyl acetate.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Hector M. Reyes, whose telephone number is (571) 272-0691. The Examiner can normally be reached Monday through Friday from 9:30 to 5:30pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor Ms. Rita Desai can be reached at (571) 272-0684.

Hector M. Reyes, PhD JD  
Reg # P-54,846  
AU 1625  
July 31, 2004

*RDesai*  
8/3/04